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The Napoleonic Wars: A Watershed in Spanish History?

*Leandro Prados de la Escosura
and Carlos Santiago-Caballero*

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The Napoleonic Wars had dramatic consequences for Spain's economy. The Peninsular War had higher demographic impact than any other military conflict, including civil wars, in the modern era. Farmers suffered confiscation of their crops and destruction of their main capital asset, livestock. The shrinking demand, the disruption of international and domestic trade, and the shortage of inputs hampered industry and services. The loss of the American colonies, a by-product of the French invasion, seriously harmed absolutism. In the long run, however, the Napoleonic Wars triggered the dismantling of Ancien Régime institutions and interest groups. Freed from their constraints, the country started a long and painful transition towards the liberal society. The Napoleonic Wars may be deemed, then, a watershed in Spanish history.

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JEL Classification: E02, F54, N13, N43

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Introduction

The Napoleonic Wars are usually depicted as a major juncture in European history. Historians' assessments of the Peninsular War (1808-1814) tend to emphasise its negative impact. In this essay, we survey the short-term effects of war but look also at its long run consequences. The French invasion had severe consequences for the economy of Spain in the short run. The actions of French and Allied armies had a higher demographic impact, larger than any other military conflict, including civil wars, in Spanish modern history. Confiscations of crops and destruction of livestock hindered agriculture, while shrinking demand, disrupted trade, and inputs shortage hampered industry and services. Moreover, the loss of the American mainland colonies, a by-product of the French invasion, severely harmed absolutism, challenging its viability. In the long run, however, the Napoleonic Wars contributed to the removal of Ancien Régime institutions and interest groups. As the country freed from their constraints, a far from smooth transition towards a liberal society was initiated. The Napoleonic Wars may be deemed, then, a watershed in Spanish history.

I. The short-run impact

The invasion of Spain by the Napoleonic armies was initially a peaceful process that took place with the complete agreement of the Spanish authorities.¹ However, as soon as Napoleon forced Charles IV's abdication, insurrection broke up, starting in Asturias and quickly spreading throughout the country. By then, Napoleon had already stationed large contingents of soldiers in key points of Spain and was ready to face Spanish and allied forces in the upcoming war. How large was the damage inflicted on the economy? The direct effects of the war are hard to reckon. In the following paragraphs we will survey its impact on different social and economic dimensions.

¹ On March 16th 1808, Charles IV issued a proclamation, "Breath calmly: know that the army of my good ally the emperor of the French passes through my kingdom with ideas of peace and friendship. Its purpose is moving to the points threatened by an enemy landing..."(Queipo de Llano, 2008: 1202).

Population

Losses due to military operations in Spain, a major battleground of the Napoleonic Wars, have been estimated around 300,000 (Urlanis, 1971), probably a figure on the high side. Most of the casualties took place, however, among the civilian population. The confiscation of food, the violence of Napoleonic and Allied armies, and the spread of diseases, as large contingents of soldiers moving all over the country, were its main causes. There are abundant examples. In the shire of Valdeorras, only one ninth of the Spanish casualties were military (Canales, 2017). French troops followed a very clear strategy in dealing with local resistance, namely bloodbath and terror to avoid further insurrections. After the siege, Zaragoza was completely destroyed and 54,000 people lost their lives (Gates, 1987: 129). Equally brutal were the sieges of Badajoz, Ciudad Rodrigo or the complete destruction of San Sebastian at the hands of the Allied forces.



Figure 1: Monthly Mortality in the Cities of Albacete and Avila, 1807-1816 (Jan-Dec 1807=100)
Source: Santiago-Caballero (2017).

How the violence exerted on civilian populations increased mortality rates can be exemplified by comparing the cases of Avila, where resistance to the French troops was moderate, and Albacete, sacked several times during the war as occupation was resisted (Figure 1). While in Ávila mortality remained at the same level before and after the war, except during the second occupation by the French army in 1812-13, in Albacete, mortality increased by more than 50 per cent in 1808-09 and 1811-13.²

The negative effects of the war were also clear in the marriage strategies of the population in Albacete and Avila. Figure 2 shows the evolution of marriages in both cities between 1801 and 1819. The rapid increase during the first years of the century suffered a sudden stop followed by a reversal at the beginning of the war with the number of marriages decreasing by 35 per cent between 1808 and 1814. Figure 2 also shows the importance of the war indirect mid-term effects as the reduction of fertility, a consequence of young male casualties.

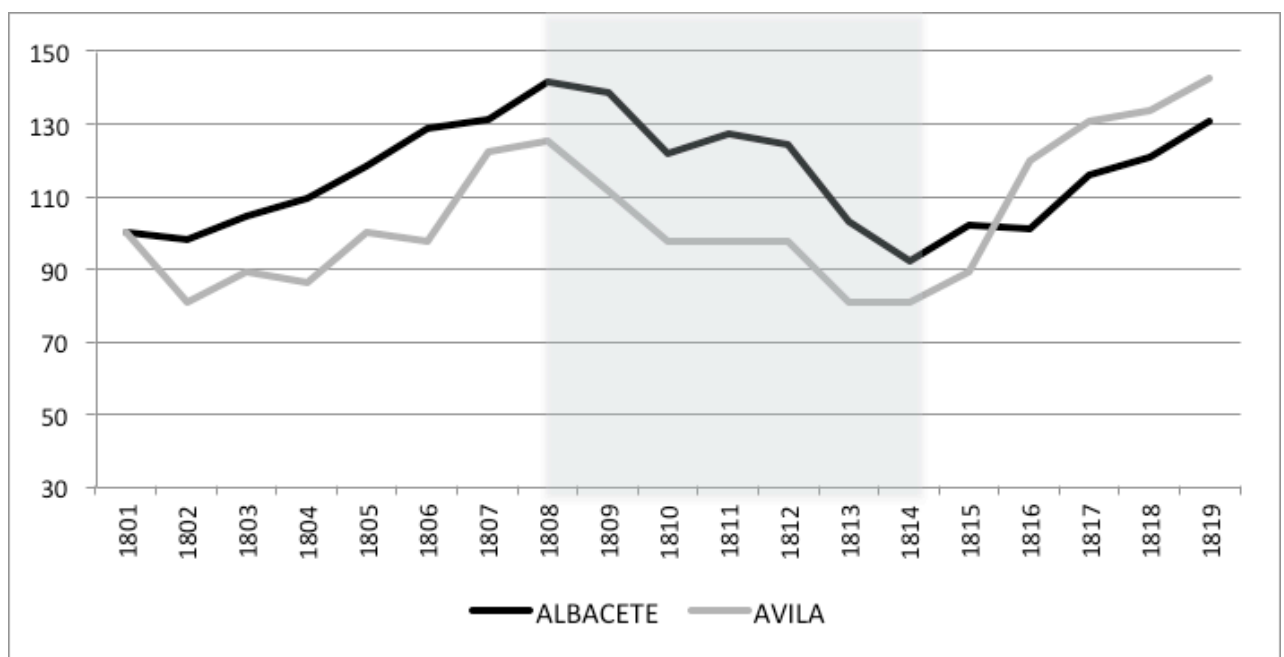


Figure 2: Marriages in the Cities of Albacete and Avila, 1801-19 (5-year moving ave. 1801=100)
Source: Santiago-Caballero (2017).

² As Sánchez Albornoz (1911) wrote, “during this period when most of the Spanish cities adorn their history with heroic deeds, not a single one is carried out in the Avila of the Loyalists and the Knights, a single act that would made the Avulenses of that time worthy descendants of the hidalgos from medieval Avila”.

More significant are, perhaps, the losses resulting from deviations from the demographic trend. Fraser (2006) suggested that Spain's potential population decreased by around 0.8 million inhabitants during the first fifteen years of the nineteenth century, although the casualties of the war did not exceed 375,000. Canales (2017) reckons that excess mortality reached 0.6 million during 1809-13. Such figures are not far apart from contemporary estimates suggesting an overall war toll of about one million (Muñoz Maldonado, 1833). Pérez Moreda (1985, 2010) considers this figure plausible, provided it includes the effects of the subsistence crisis of 1803/05 on the number of births. Thus, adding up direct casualties and losses resulting from excess mortality a total loss of nearly one million can be put forward.

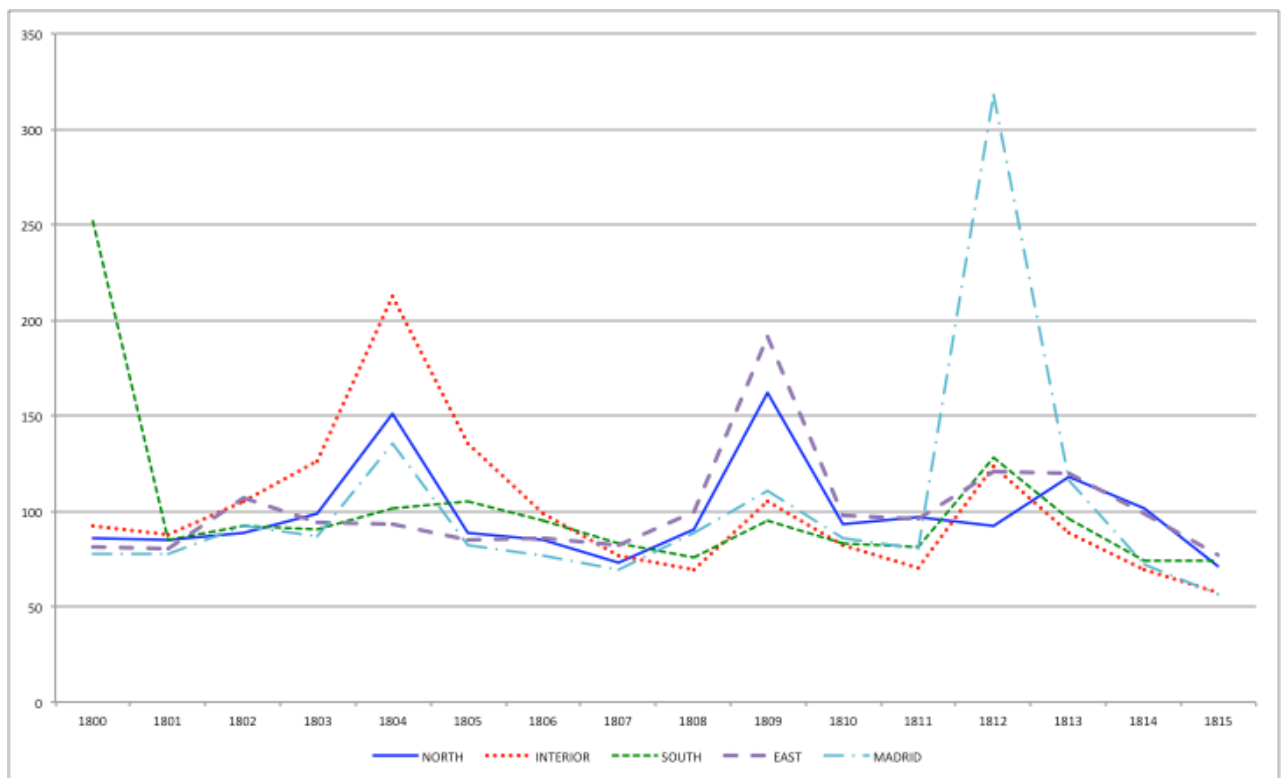


Figure 3: Mortality in Spanish Regions, 1800-1815 (1800-1815=100).

Source: Canales (2017)

The regional consequences of the war were unevenly distributed. In the south and the interior, most of the increase in mortality took place before the war, as a result of the subsistence crisis of 1803/05, while it was in the periphery where the effects were considerably larger during the conflict, particularly in Catalonia and the northern regions (Figure 3). Madrid was especially hit in 1812, as consequence of the hunger produced by the low harvests of 1811 and the supply difficulties problems

during the war (Fraser, 2006: 203). Thus, those regions that had already experienced a significant population contraction during the previous subsistence crisis suffered a milder demographic impact during the Peninsular War.

Agriculture

The Peninsular War had deep and widespread effects on the agricultural sector. Plundering and confiscations by French and Allied armies imposed a considerable toll on producers. The war also affected Ancien Régime institutions that had conditioned the secular behaviour of farmers and peasants.

Napoleonic troops relied on supplies from France to carry out their military operations, but guerrilla attacks to supply lines forced requisitions from local producers (Gates, 1987:41). The British expeditionary force also relied on requisitions though promised to pay for the expropriated goods.³

Confiscations of livestock were particularly significant and had two main effects, namely, the loss of a source of proteins consumption, as the amount of meat and dairy products consumed by the population fell, and the reduction the capital stock used for ploughing and transportation that surely had a longer impact. War taxation also had a confiscatory effect. In Catalonia, for example, the French administration collected more than 100 million Reales that were paid by selling land and livestock.

The war also impacted on the Ancien Régime institutions. For example, the tithe, a religious tax that, in principle, represented 10 per cent of total production, was repealed. Moreover, municipal laws restricting land cultivation stopped being enforced during the war. Since the early eighteenth century, demographic expansion demand had been met by increasing agricultural production at the extensive margin (Santiago-

³ However, this compensation was often futile, as the owner had to travel to Lisbon and very often wait for weeks to receive the money, so many of them sold the bills to intermediaries who bought them at considerable rates of discount (Fraser, 2006: 761).

Caballero, 2013). Relaxing controls during the French occupation intensified this trend (Llopis Agelán, 2010).

In addition, *desamortización*, namely, confiscation and public sale of land property of religious and communal institutions, took place during Joseph Bonaparte's rule in order to finance the French army (Rueda Hernanz, 1997). Although the area affected was limited and confiscation was partially reverted after the war, the transformation of commons and church lands into private property was irreversible. This was not the first episode of disentailment, however, as a previous *desamortización* had taken place in 1798, as a way of funding the wars against the French Republic and the United Kingdom (Herr, 1971, 1989).

Assessing the impact of war on agricultural production presents a challenge. Historians often use tithe payments to draw trends in output but its payment became erratic and, in some cases, non-existent during the Peninsular War (Álvarez-Nogal et al., 2016). A demand function approach provides an alternative estimate of agricultural consumption per head over 1780-1820 (Figure 4). A severe contraction is observed during the war followed by a quick recovery.

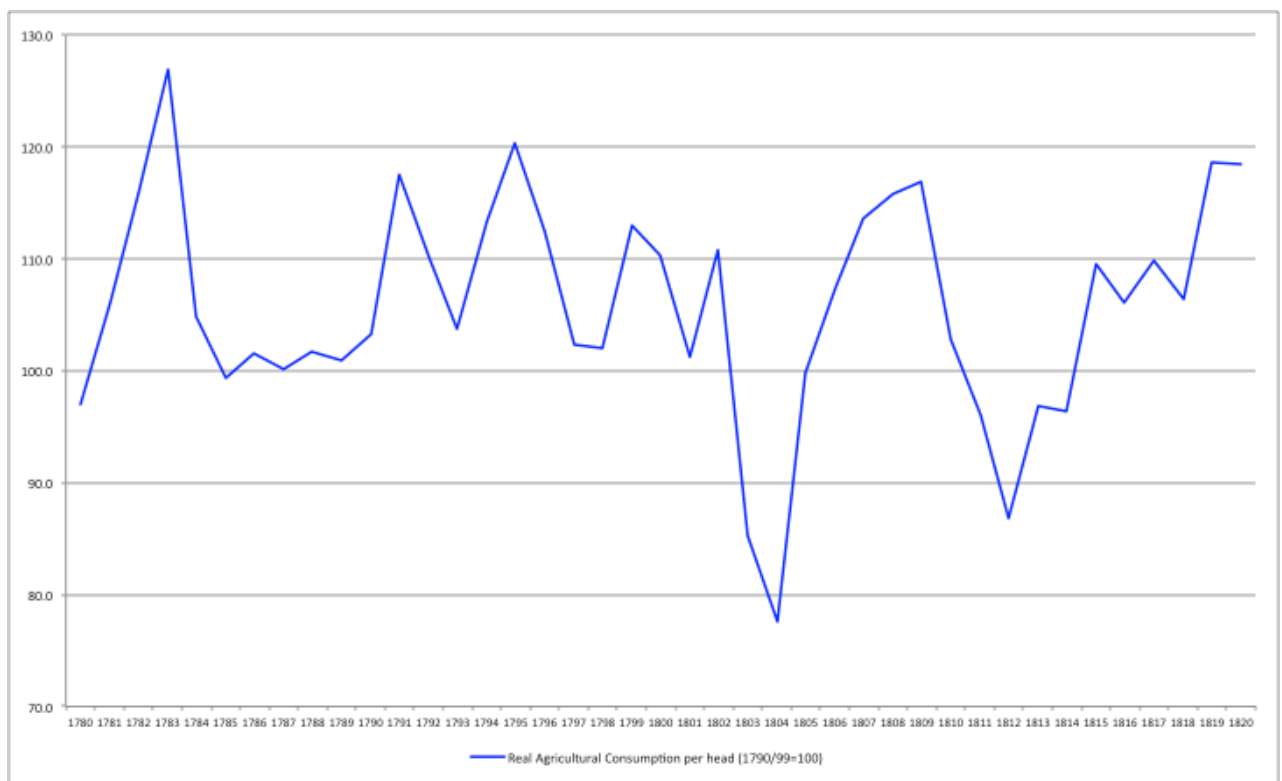


Figure 4: Real Agricultural Consumption per Head, 1780-1820 [1790/99=100]

Source: Álvarez-Nogal and Prados de la Escosura (2013)

Output in preindustrial agriculture was highly dependent on climate conditions and the Napoleonic Wars belong to a period of climatic instability. The Maldá Anomaly or oscillation, that increased simultaneously droughts and floods, coincided with the first Dalton Minimum -a phase of low solar radiation between 1790 and 1830-, and the eruption of the Tambora volcano in 1815, that rose atmospheric CO₂ concentration, bringing with it high climatic irregularity and hydrologic extremes. These climatic anomalies were matched by intense output fluctuations (Barriendos and Llasat, 2003; Barrera-Escoda and Llasat, 2015).

Figure 5 shows agricultural output and seasonal rainfall anomalies –namely, yearly deviations from the historical average relative to the standard deviation-. An inverse association between output and rainfall variations can be predicated, with wet periods associated to negative output fluctuations.

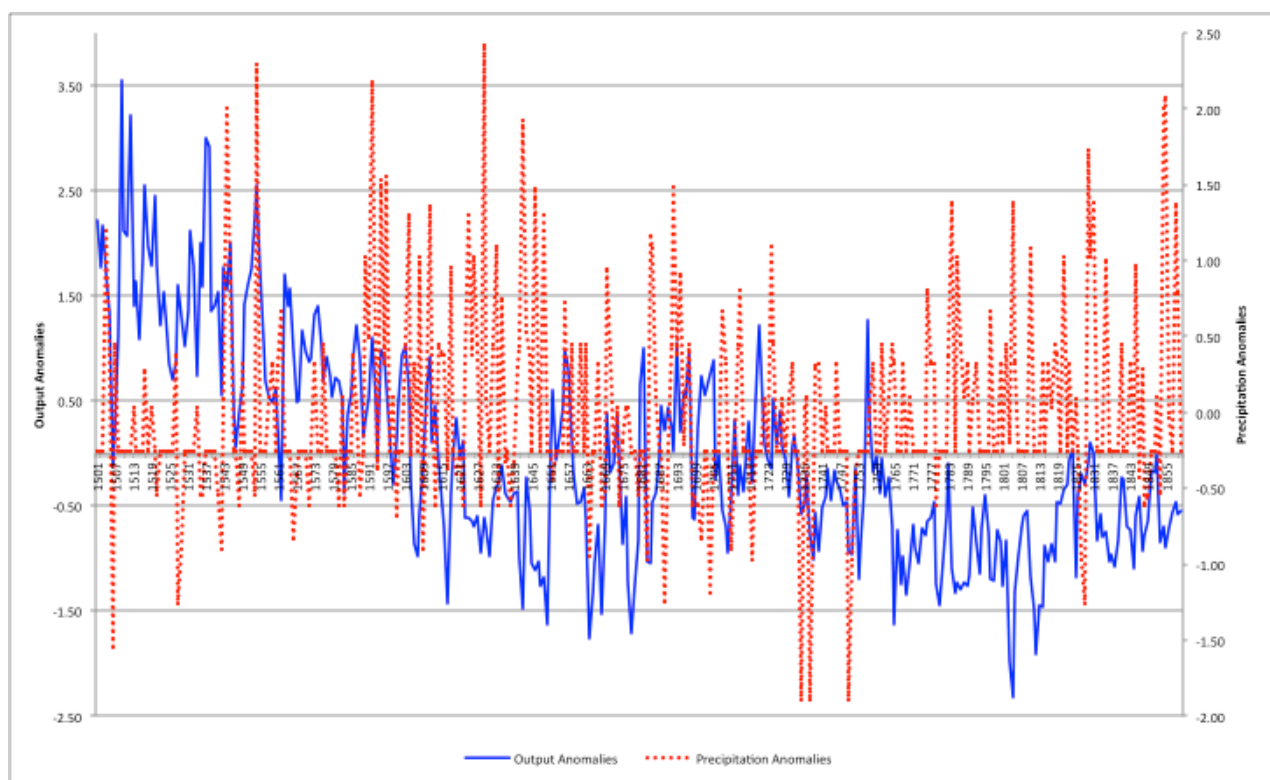


Figure 5: Agricultural Output and Precipitation Anomalies 1500-1855.

Sources: Agricultural output, Álvarez-Nogal et al. (2016); Precipitation, Rodrigo et al. (1999).

The exogenous shock brought by the war and climatic anomalies impacted on the returns to factors of production. The extension of land under cultivation depressed land rents, that fell by nearly 50 per cent between 1808 and 1812 and never re-gained

pre-war levels (Figure 6). Real wages suffered a more intense reduction during the war but returned to pre-war levels by 1817.

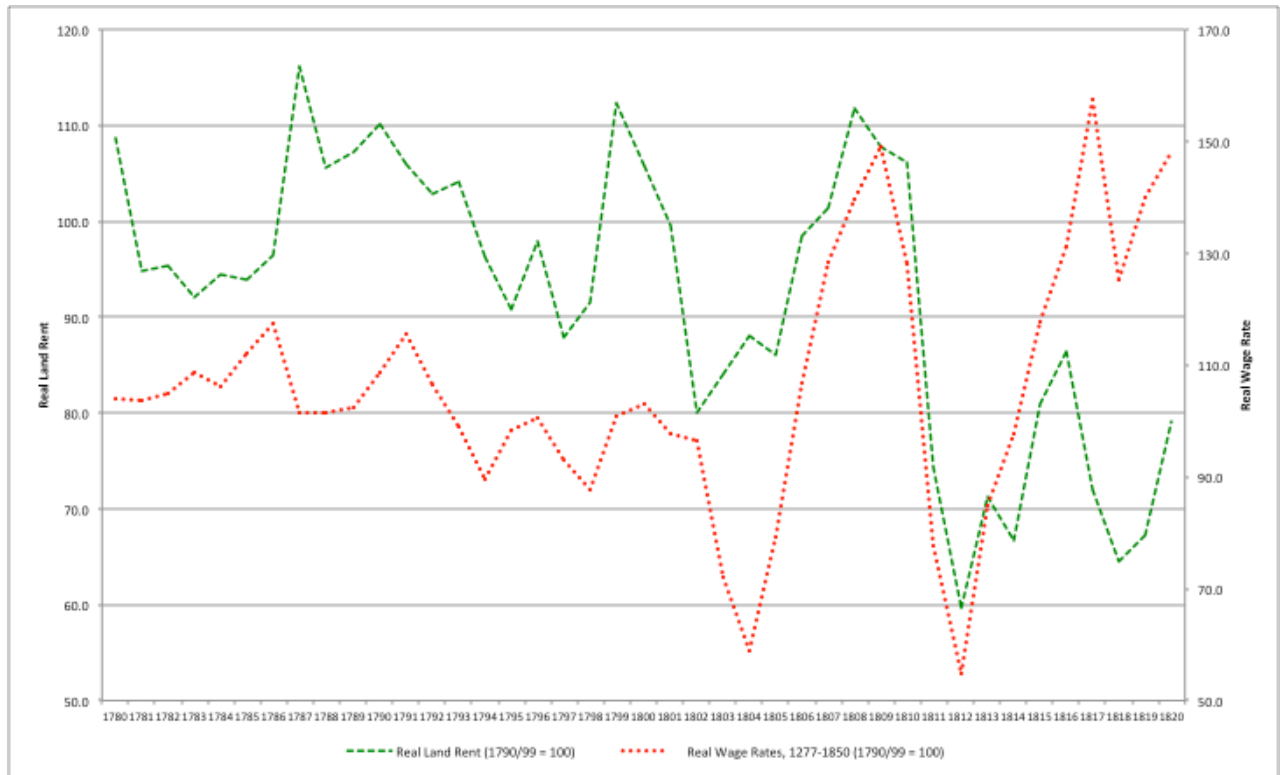


Figure 6: Real Land Rent and Wage Rates, 1780-1820 (1790/99=100)
Source: Álvarez-Nogal and Prados de la Escosura (2013)

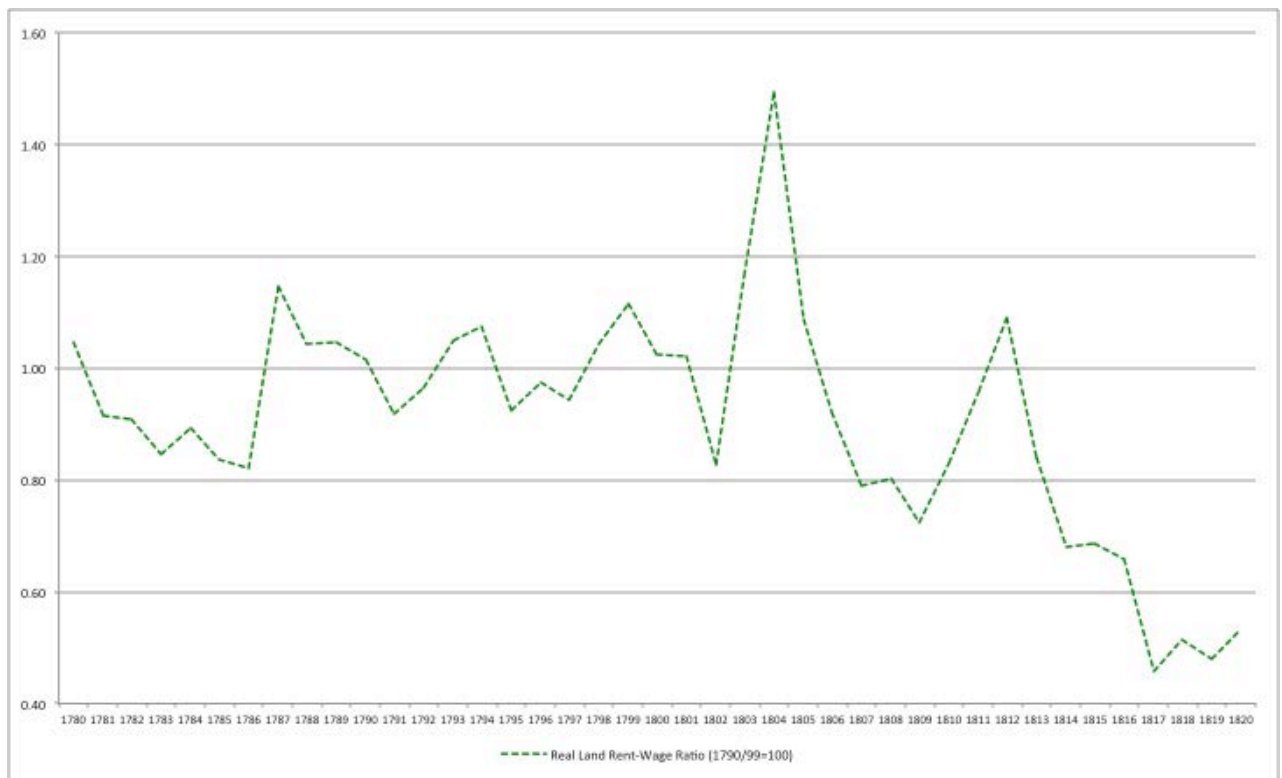


Figure 7: Inequality Trends: Real Land Rent/Wage Rate ratio, 1780-1820 (1790/99=100)

Source: Álvarez-Nogal and Prados de la Escosura (2013)

Comparing land rents and real wages also help us to draw trends in income distribution. The rationale is that as land is more unevenly distributed than labour and average returns usually higher for landowners than for workers, the land rent-wage ratio provides a measure of changes in income inequality. A declining tendency since 1800 is observed that the end of the war did not revert, except for two peaks during the pre-war subsistence crisis (1804) and in the Peninsular War (1812) (Figure 7).

Industry

The effects of war on the industrial sector included the reduction of internal and external demand, scarcity of inputs, and heavy taxation. In addition, producers faced unrestricted competition of French and British goods.

For example, in the woollen factory of Astudillo, one of the main centres of textile production in Old Castile, the price of wool more than tripled between 1808 and 1814. The requisition of animals and the increase of transport costs were probably behind these changes, while the invasion of common municipal lands and their use for

cultivation also reduced the available pastures to feed sheep. Producers were forced to cut down prices and profit margins (Hernández García, 2004: 171).



Figure 8: Inputs Bought by Erasmo de Gómina's Cotton Textile Company (1802-04=100)
Source: Sánchez (2010)

In the case of the cotton industry, mainly located in Catalonia, inputs scarcity severely restricted production. For example, Erasmo de Gómina's factory in Barcelona interrupted inputs purchases (cotton and dyes) during the Peninsular War (Figure 8).

Heavier taxation to finance the war effort by both French and Allied authorities drained resources from productive activities and reduced incentives for economic activity. In Astudillo, textile producers were charged with additional taxes for the city to pay the French invaders (Hernández García, 2004: 162). In Murcia, after the French took the city on April 25th 1810, General Sebastiani obtained a ransom of 34,560 Reales for not sacking the city that was mainly paid by local businesses (Melendreras Gimeno, 2000: 64).

The so-called Royal Factories (*Reales Fábricas*) also suffered the effects of the war and never recovered. They had been established to reduce the importation of valuable goods such as porcelain, glass, and fine textiles and to upgrade the technologies used by local producers (La Force, 1965). However, their impact remained

limited and they practically ceased to exist after the end of the Peninsular War (Benaúl and Sánchez, 2004). The Royal Factories were also an objective for both sides, like the factory of Porcelain in Madrid that was completely destroyed by English troops before leaving the capital in 1812 (Martínez Caviro, 1973).

Although the immediate effects of the war were probably similar across industries, while traditional industries collapsed, modern industries continued to adopt new technologies. The recovery, however, was not immediate and in the Catalan cotton industry pre-war (1783-97) nominal levels of investment were only met in the 1830s (Sánchez, 2000: 502).

An additional problem for domestic industry brought by the war was a high level of smuggling. Net imports experienced exponential growth during the war, and one-third were smuggled through Gibraltar and Portugal (cotton textiles and tobacco, in particular) (Figure 9). In addition, the Napoleonic authorities allowed French traders to flood Spain with French products.

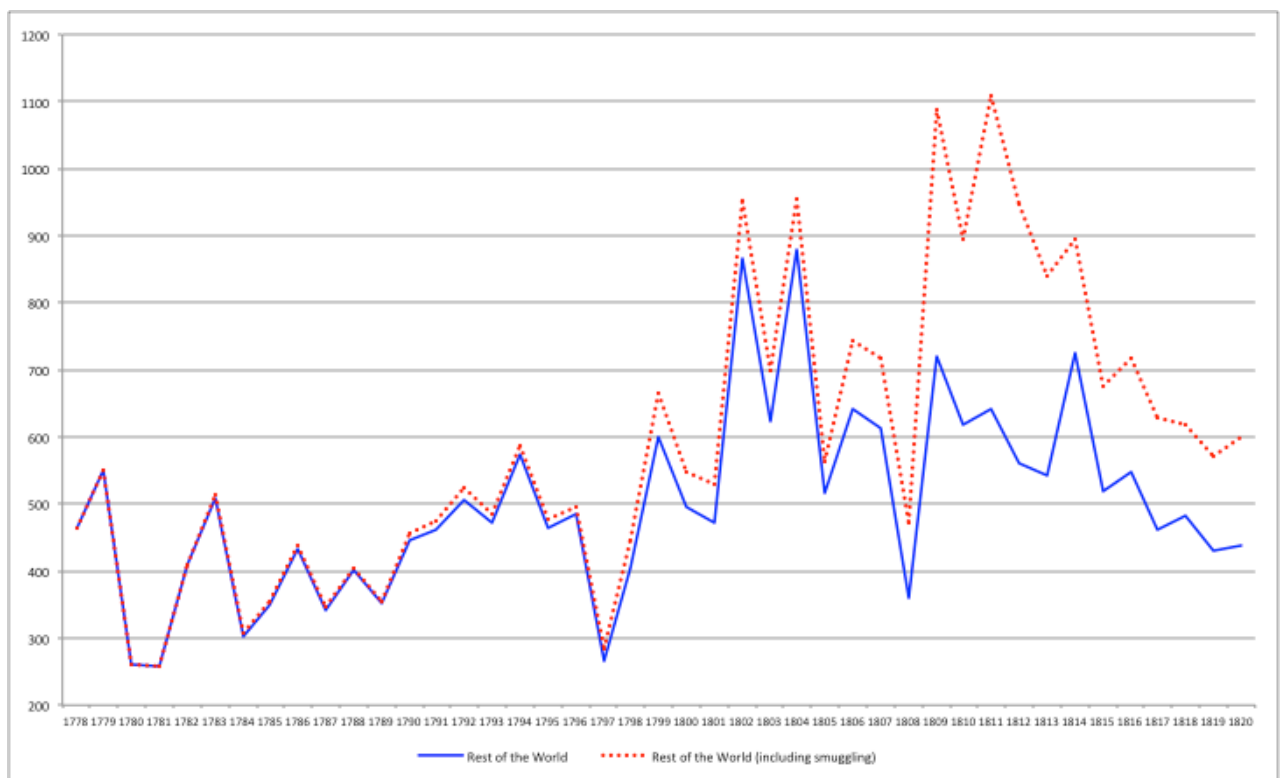


Figure 9: Spanish Net Imports from the Rest of the World (excl. Spanish America), 1783-1820: with and without Smuggling (000 1808 Reales)

Source: Prados de la Escosura (1993)

Trade

One of the most obvious effects of the war was the immediate disruption of both internal and international trade. Markets had gradually integrated during the eighteenth century as the fall of the price differential for wheat between coastal and interior regions suggests (Llopis Agelán, 2010) (Figure 10). The war provoked a reversal, and the return to pre-Peninsular War levels of integration had to wait until the mid-nineteenth century (Peña and Sánchez-Albornoz, 1983). Market disintegration proved negative for economic activity by increasing transport costs and restricting the supply of goods to urban centres (Ringrose, 1970, 1983).

Transport costs increased not only due to rising insecurity but also because of the shortage of manpower. Muleteers largely carried out internal trade, short and mid-distance, in particular. French and Allied armies forced muleteers to supply them reducing, therefore, regular transport services (Ros, 1999: 195). Furthermore, guerrillas' confiscation of grain supplies, as was the case of those aimed for Madrid in 1813 (Fraser, 2006: 697), provided an additional constraint on trade.

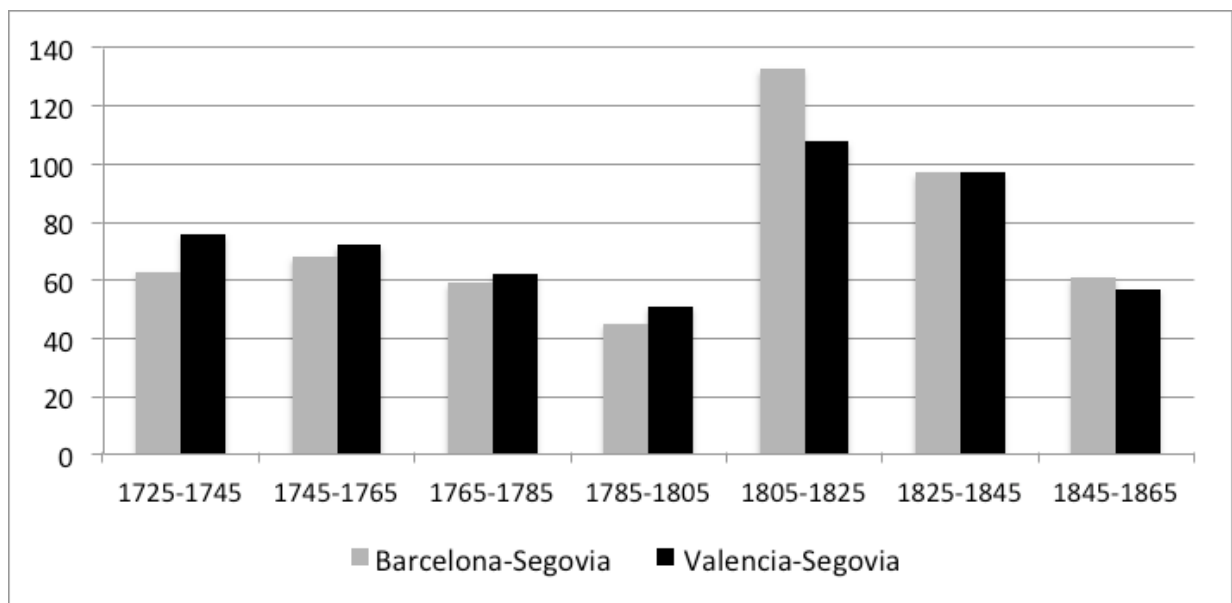


Figure 10: Market integration: average wheat price differentials (%)

Source: Llopis Agelán (2010)

International trade increased during the eighteenth century, promoting monetisation and market orientation at a time of expanding population and rising land rents. This trend suffered a reversal during the Napoleonic Wars. From the beginning

of the war with Britain in October 1796, Spain maintained almost no link with the colonies for more than two decades. The French invasion contracted trade further and triggered the struggle for independence in Spanish America (Grafe and Irigoin, 2012: 368).

Trade fell dramatically after the war broke in 1797, briefly recovering after the Amiens peace (1802) and shrank again as war resumed (1805-1808) (Figure 11a). The break up of the Peninsular War reduced real domestic exports again, that reached a trough in 1812, and kept real re-exports at minimum levels. Net imports, that is, retained for domestic consumption, recovered during the war (1809-11), largely due to allies' supplies, and experienced steady decline thereafter. Relative to the size of the economy, the contraction of the trade sector is even more dramatic, with domestic exports and net imports falling after 1802 and re-exports since 1793 (Figure 11b).

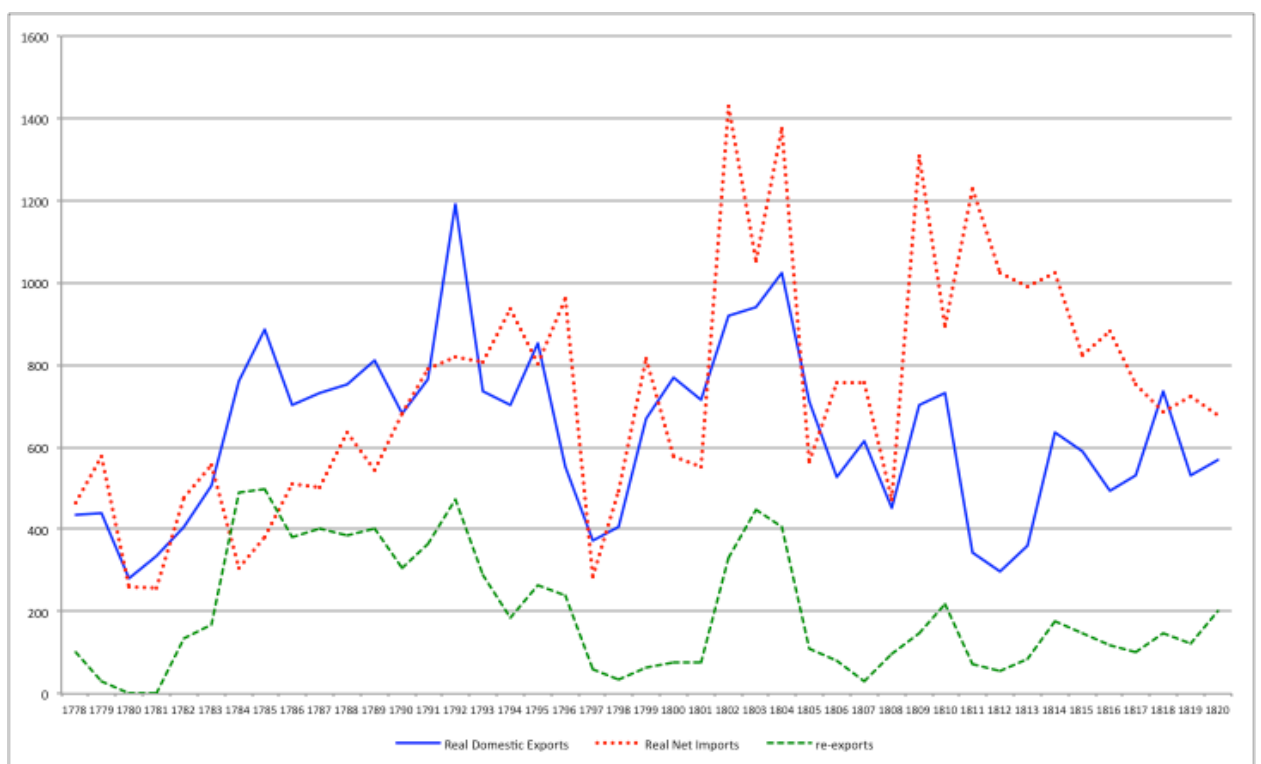


Figure 11a: Real Domestic Exports, Net Imports, and Re-exports, 1778-1820 (1808 Reales).
Sources: Trade, Prados de la Escosura (1993); GDP, Álvarez-Nogal and Prados de la Escosura (2013)

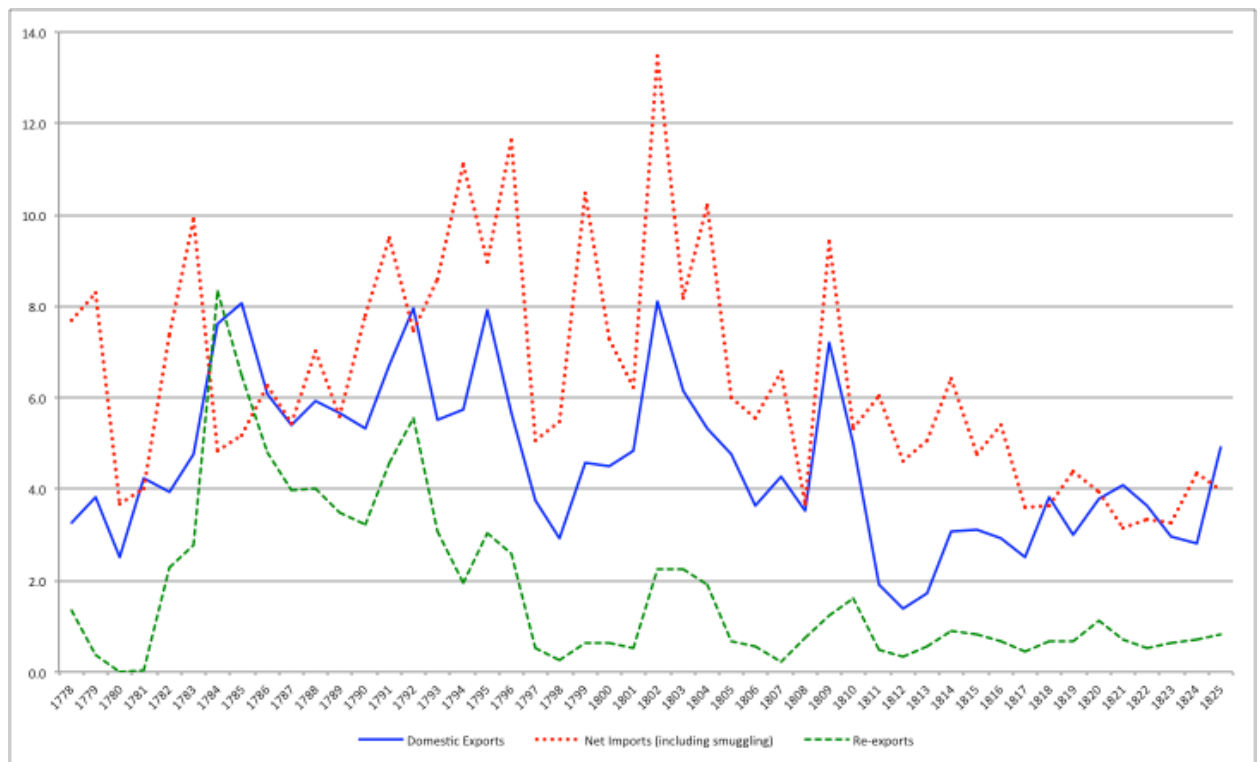


Figure 11b: Trade Shares: Domestic Exports, Net Imports, and Re-exports, 1778-1820 (% GDP)
Sources: Trade, Prados de la Escosura (1993); GDP, Álvarez-Nogal and Prados de la Escosura (2013)

Trade with Spanish American colonies stimulated industry and services, helped by protectionist legislation that made Spanish manufactures artificially competitive. Industrial exports, concentrated in a few sectors, textiles and food -which represented more than half of export value in 1792 a peak year in international trade (36.6 and 22.3%)- and paper and iron (4.4 and 3.2%), and were associated with some external economies in their regions of origin. Shipbuilding and its associate activities (iron, cordage, and timber industries) expanded, favoured by Spanish navigation laws. It could be suggested that, at most, exports of domestic manufactures to the colonies made a 5% contribution to industrial value added before the Napoleonic Wars (Prados de la Escosura, 1993).

The composition of colonial trade suggests that the possibility of increasing production by reallocating resources was small, and that most gains possibly resulted from changing consumption patterns. By 1792, over 60% of retained imports consisted of cocoa and sugar. Furthermore, Spain's dependence on the colonies for raw materials was very small (raw cotton and dyestuffs only represented 4% of retained imports in 1792) (Prados de la Escosura 1993). Since these colonial products could

have been acquired on international markets, gains from colonial trade would only occur if, given colonial rule, Spain acquired the same commodities at lower prices. Furthermore, it could be suggested that the low dependence on colonial raw materials provides a measure of the weakness of domestic manufacturing. In the Catalan cotton textile industry, European cotton yarn imports were more important than colonial raw cotton imports, suggesting how weak the spinning industry was at the time.

The subsequent decline in domestic exports (one-fourth between 1784/96 and 1815/20) can be attributed almost exclusively to the fall in colonial commerce (which shrank by 60%). The consequence was the end of the long-standing equilibrium distribution of domestic exports between the colonies and Europe (roughly one-third and two-thirds, respectively), and the establishment of a new distribution that continued throughout the nineteenth century (with foreign markets absorbing four-fifths). Retained imports of colonial goods for domestic consumption (which had represented one-fifth of total retained imports) fell to 15%, but this was offset by imports from Europe. The collapse of trade with the empire was particularly significant for services (financial, insurance, transportation), as is revealed by the contraction of real total re-exports to 40% of the pre-war level and, for those to Latin America by three-fourths between 1784/96 and 1815/20. The Spanish balance of trade also felt the effects of colonial independence. Before the loss of empire, Spain had a deficit on current account with foreign countries that was balanced by a corresponding surplus in colonial trade. With colonial emancipation this balancing mechanism disappeared, with deflationary consequences for the domestic economy. Fortunately, a favourable terms of trade – resulting from an improvement vis-à-vis Europe, more than matching a deterioration with respect to the colonies -- increased the purchasing power per unit of exports by nearly 40% between 1784/96 and 1815/20, allowing Spain to avoid further deterioration in the current account balance.

A rough estimate of the real cost to Spain of the loss of her colonies can be attempted, making assumptions favourable to the generally accepted view that the loss was significant (Prados de la Escosura, 1993). The first assumption is that the productive resources embodied in exportables did not have alternative uses in the domestic economy. A similar assumption is made regarding the services (shipping,

insurance, mercantile) provided by Spanish subjects in the colonial trade. In contrast to the non-colonial trade, almost totally carried on non-Spanish ships, Spanish colonial legislation ensured that the colonial trade used only national shipping. Therefore, with the decline of Spanish American trade, a decline in Spanish maritime services closely followed. The loss in state revenues due to the cessation of precious metal shipments, and the reduction of customs duties resulting from colonial independence, were also taken into account, the assumption being that public revenues from the colonies were productively used in the domestic economy. The upper bound estimate of Spanish losses implied by these assumptions was not more than 6% of national income. And while it could be argued that the profits from colonial trade represented a high proportion of the funds used to finance investment in Spain, an upper bound estimate of their contribution made to total capital formation is below 15% by 1784/96. These results, derived within a static framework, are consistent with Palma's (2016) who, using a dynamic model finds that intercontinental trade raised real wages and urbanization by 6.2% and 3.9%, relatively low figures in European perspective.

Finance

In addition to the contraction of external public revenues (customs revenues plus Indies' remittances), as a result of the sharp decline of international and colonial trade, the Peninsular War represented the collapse of all government revenues to one-fifth of pre-bellum (1784-96) level and to about one-tenth of its relative size (Figure 12).

However, between 1808 and 1815, the British Government made advances to the Spanish authorities in money, weapons, and supplies that partly offset the fall in public revenues. Thus, Spain received 7.8 million Sterling as subsidy payments from Britain (Sherwig, 1969: 362-8), a larger figure than the 5.2 million officially estimated (Parliamentary Papers, 1854 XXXIX (469)). Spain never repaid these subsidies, however, as were condoned in the peace treaties.

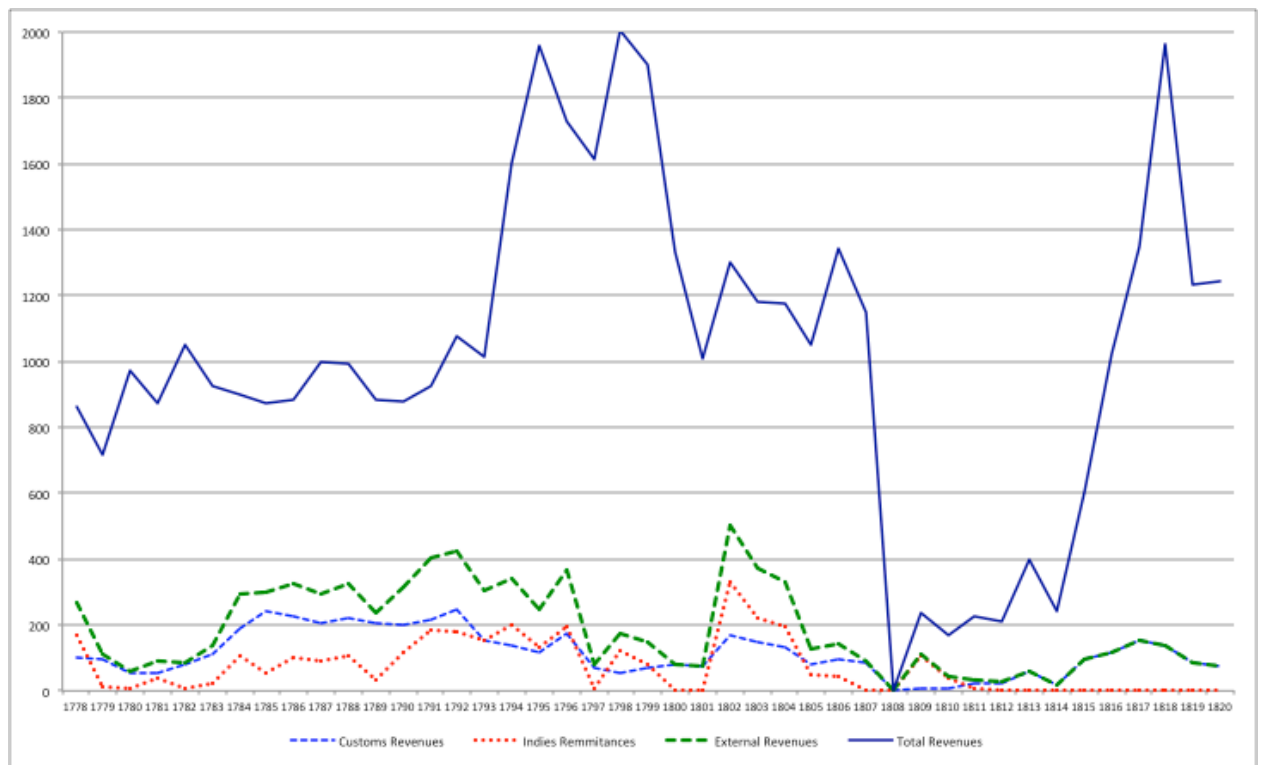


Figure 12. The Evolution of Public Revenues, 1778-1820 [Million Reales, 1808 prices]

Source: Prados de la Escosura (1993)

The war also introduced distortions in the monetary system. For example, it provided the French occupational authorities with an opportunity to extract precious metals from Spain via monetary manipulations. French currency was allowed to circulate and to be accepted for payments in Spain. An *ad hoc* Commission established exchange rates that assigned the same purchasing power to French coins with lower intrinsic metallic content than Spanish ones. On average, the differential was about 10 per cent for the most commonly used coins (Vadillo, 1846). As a consequence, in occupied territories Spanish coin disappeared and only French currency circulated (Queipo de Llano, 2010: 1136). The situation was not easily reversed and French coins were kept in circulation after the war (Sardá, 1948). The '*monetary invasion*' not only implied a loss of silver, but also contributed to macroeconomic instability.

Summing up

The Peninsular War had deep and negative economic consequences in Spain. The demographic direct and indirect impact represented a disaster for Spain, with the population falling one million short of its potential and its direct effect representing

half a million casualties, around 5 per cent of the population, more than doubling the relative loss in the 1936-39 Civil War, and becoming, hence, the bloodiest conflict in Spain's modern history. The short-term effects of war in agriculture were ambiguous. On the positive side, the lack of enforcement of Ancien Régime institutions, including avoiding the payment of tithes, allow producers to increase cultivation and pay lower land rents. On the negative side, confiscations hit livestock and, therefore, the stock of capital. The war afflicted the industrial sector in different ways. Impoverished population reduced its consumption, military operations increased transport costs and input prices, and heavier taxes diverted capital from productive investment. Services were also disrupted; trade in particular, with international experienced a dramatic collapse. Government revenues collapsed and the outflow of silver had a deflationary impact on the economy. As a consequence, GDP per head fell during the Peninsular War and its decline was only surpassed by the severe subsistence crisis of 1803/05 (Figure 13), even though its effects were very unevenly distributed being the peripheral regions the more afflicted ones.

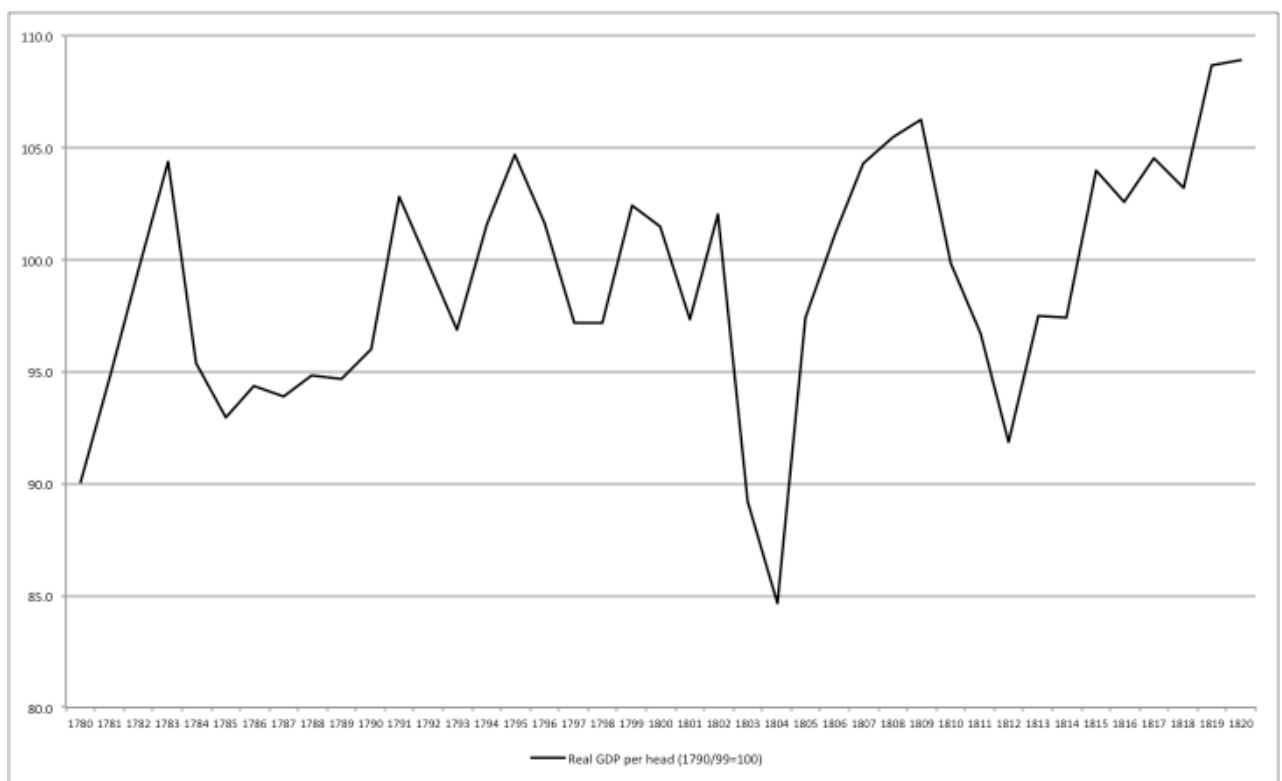


Figure 13. Real GDP per head, 1780-1820 [1790/99=100]

Source: Álvarez-Nogal and Prados de la Escosura (2013)

The Peninsular War also sparked the fight for independence in Spanish America and their institutional consequences were far from negligible. The empire strengthened absolutist monarchy. Colonial revenues allowed the rise of a strong political centre, which concentrated power without being drawn into extensive bargaining with its more prominent subjects and institutions (Yun Casalilla, 1998). Prior to the Napoleonic Wars, Crown revenues of colonial origin (including the surplus from colonial chests and those derived from customs duties) represented one-fourth of the total (Cuenca, 1981), reducing the state need to increase taxation on the metropolis population. Thus, it can be argued that the colonial empire helped to consolidate and stabilise traditional institutions and structures of power. The emancipation of the American colonies contributed, therefore, to the end of the Ancien Regime (Fontana, 1991), and opened the way to the liberal revolution.

II. The Liberal Revolution

The liberal revolution brought with it a redefinition of property rights that changed the population status from subjects to citizens equal before the law, the liberalization of commodity and factor markets, and the Parliamentary control of public revenues and expenditure. It was, nonetheless, a long process fraught with difficulties and partial reversals.

An important step in the redefinition of property rights was the creation of the modern Code of Commerce in 1829, which concentrated all the figures in commercial matters in a single legal instrument and provided judges with a unified legal framework to operate, reducing uncertainty and transaction costs. The Code of Commerce, the creation of the Bank of San Fernando, and the establishment of the stock market in Madrid in 1831, provided the institutional transformation of the financial system (Tedde, 1994; Artola, 1983: 307).

Another step regarded intellectual property. After a short-lived a patent act in 1820, the legislation that regulated innovations property rights was introduced in 1826

(Sáiz González, 1995: 90). The number of patents rose steadily, especially between 1843 and 1864 (Saiz González, 1996: 14).

The liberalization of commodity and factor markets implied major changes. The gradual suppression of the religious tax, the tithe, increased disposable income. The tithe was halved in 1821, and though formally abolished in 1837, the financial constraints during the First *Carlist* War delayed its definitive elimination until 1841. Furthermore, in 1834, the internal market for primary products was liberalised and taxes on the exportation of grains exports suppressed (Artola, 1983: 297).

The guilds that restricted participation of non-affiliates and women in industrial activities were also suppressed. In 1813 the Cadiz Parliamentary Assembly (Cortes) decreed that establishing a factory or carrying out an industrious activity did not required the previous approval, or membership, of any guild (Real Decreto 8th June 1813). However, in 1814, the absolutist government repealed the decree, and the elimination of guilds privileges was only effective since the mid-1830s (R.D. 20th January 1834 and 6th December 1836).

The liberalization of the land market included the elimination of mayorazgo (an institution that contemplated the possibility of adding new assets, but whose property could not be alienated or distributed in inheritance) and the disentailment of land, (*desamortización*), that implied the confiscation and sale of ecclesiastical, communal, and public land. The change from mayorazgo and entailed property to absolute property reduced transaction costs, increased the amount of land in the market, and provided an incentive for its exploitation. The *desamortización* was also motivated by government's need to increase its revenues. While 'old' taxes disappeared, broadening the fiscal base was difficult, -as the delayed 1845 fiscal reform suggests-, at a time of raising demand for public services among the new citizens (Tedde, 1994; Comín, 1988, 1990).

The new land property rights implied the abolition of the privileges enjoyed by the Mesta. These privileges had imposed severe limitations on the ability of landowners to enclose their properties (García Martín, 1988: 123). The laws passed in

1813, and reinstated in 1834, explicitly allowing land enclosures and reinforcing the owners' property rights.

The redefinition of land property rights was far from a smooth process. For example, it has been argued that the upper nobility took advantage of a weak state to transform their jurisdictional rights over given territories into land rights, implying the expropriation of their legitimate owners, the local peasants (Moxó, 1965).

A stream of the literature has claimed that the disentailment did not change the structure of land property as only the already affluent could afford buying new property (Herr, 1971, 1989). A careful assessment of a wide literature leads, nonetheless, to mixed results, as property became more widespread in some regions but no in others (Rueda Hernanz, 1985, 1997).

Recently, the view that the absolute property of land brought by the liberal revolution led to efficiency gains (García Sanz, 1985) has been challenged by some historians who argue that the elimination of communal property represented a heavy blow to peasants' living standards, as it only benefitted a small elite while local communities were undermined by market incentives (Beltrán Tapia, 2015). The negative assessment of the liberal reforms has a forerunner in the view that having to pay taxes in cash and selling their output in the market, at a time of deflation, made peasants worse off (Fontana, 1978; Torras, 1976). Support for the anti-liberal (*Carlist*) reaction by peasants and low nobility, seems to have been fuelled by the uncertainty of property rights and the lack of public goods (*pósitos*⁴, hospitals, etc.) that the church and other institutions had provided in the Ancien Régime, and the new liberal regime could no longer afford, as government revenues were usually behind expenditures.

We could, therefore, conclude that the institutional changes that started with and followed the Peninsular War were part of the liberal reforms. War acted as a catalyst for the development of liberal economic policies, even under absolutist rule. The consequences were new property rights, reduced information and transaction costs, and income re-distribution.

⁴ Municipal institutions, destined to store cereals for their loan to the peasants in times of scarcity.

III. *The long-run impact*

So far the focus has been on the short-term consequences of the Napoleonic Wars. However, the long run consequences, largely neglected by historians, deserve consideration. A glance at the post-Napoleonic Wars era reveals a distinctive behaviour, when compared to the pre-war era, for any dimension of social and economic activity. Thus, over 1820-60 demographic expansion accelerated nearly doubling its pace in the second half of the eighteenth century (from 0.42 to 0.76% yearly) (Pérez Moreda, 1999: 8), which implied that, by 1860, the size of the population was 50% per cent larger than in 1787.

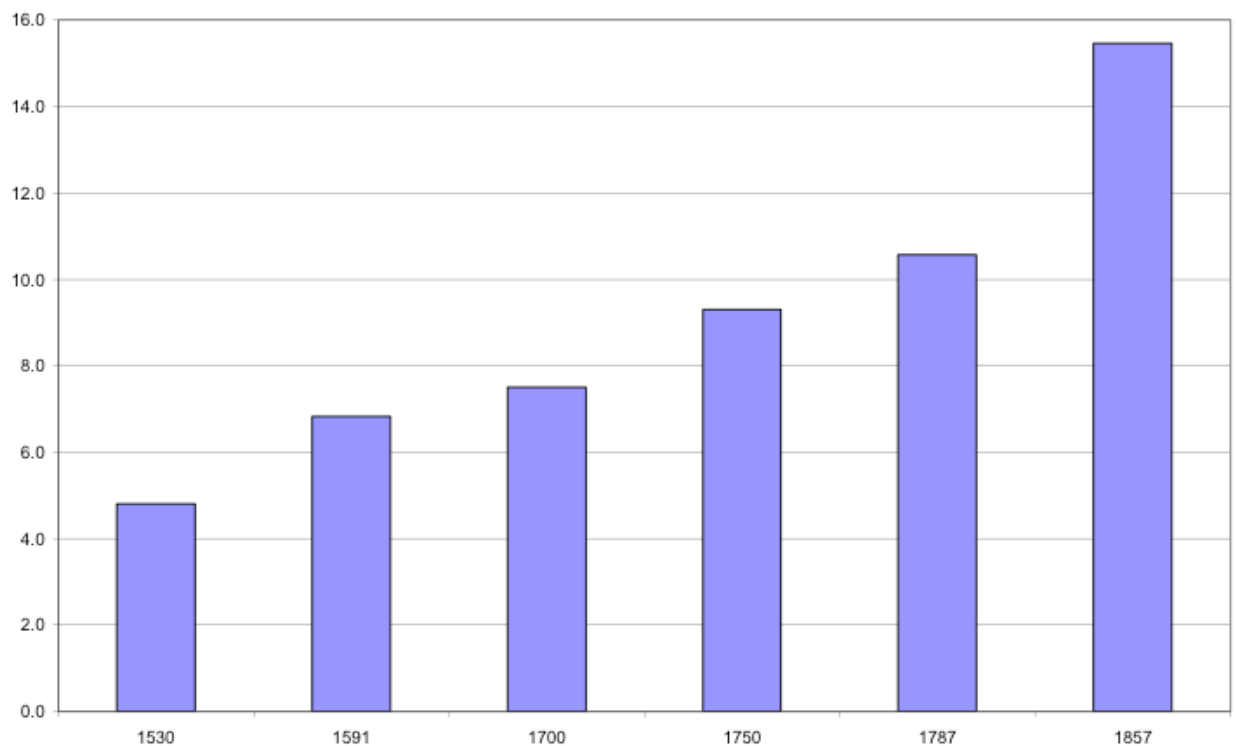


Figure 14 Population, 1530-1857

Sources: Álvarez-Nogal and Prados de la Escosura (2007)

Furthermore, the distribution of the population also varied. From a geographic perspective, the tendency to concentrate on the Peninsula's periphery intensified. More significant from an economic point of view was the increase in the rate of urbanization in the early nineteenth century (0.4 %). Thus, if we look at the adjusted rate urbanization -namely, the share of population living in towns 5,000 and over, and

that exclude those living on agriculture-, it shows that, in 1857, almost one-fourth of the population (23.2%) lived outside and did not depend upon agriculture as its means of subsistence, a significant improvement over the level in 1787 (17.4) (Álvarez-Nogal and Prados de la Escosura, 2007).

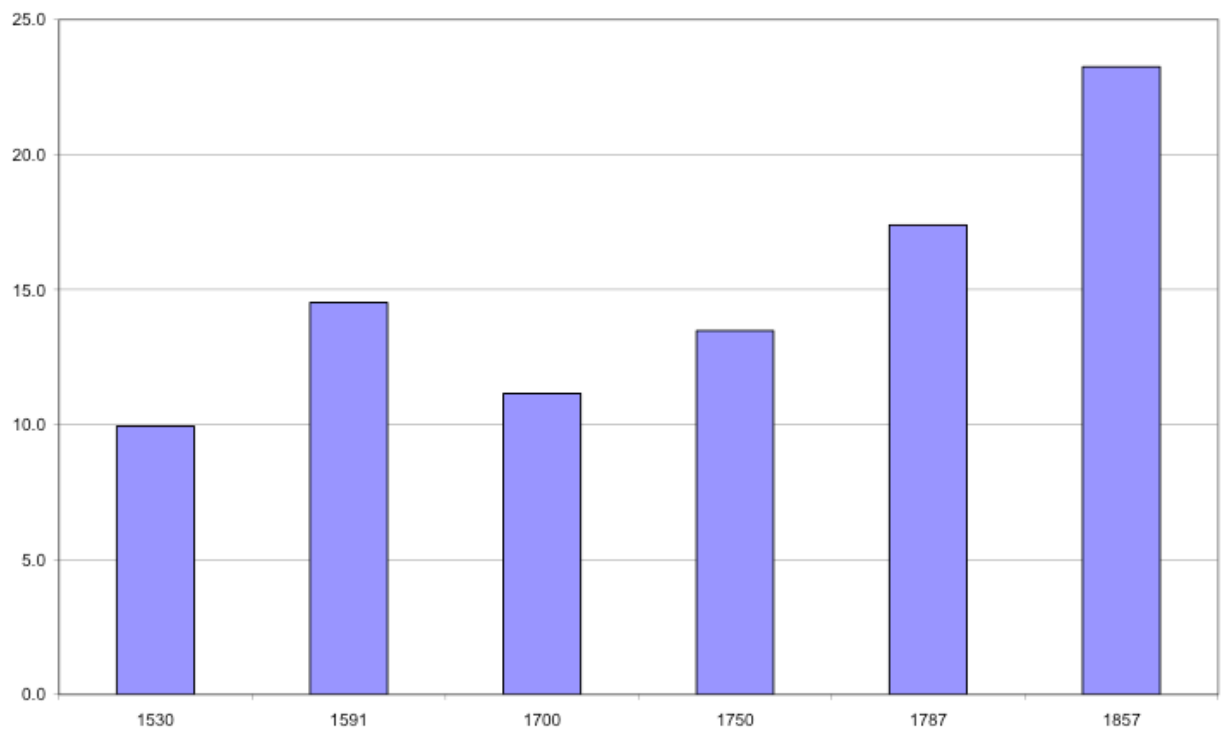


Figure 15 Adjusted Urbanization Rates (less population living on agriculture) 1530-1857
Sources: Álvarez-Nogal and Prados de la Escosura (2007)

Agricultural consumption per person increased during the 1820s, falling during the Carlist War (1833-39) and, then, exhibited a growing trend until the early 1850s (Figure 16). From a long run perspective, the early nineteenth century represents a break in the declining trend of consumption per head that improved at yearly rate of 0.33 per cent between the 1810s and the 1850s (Álvarez-Nogal and Prados de la Escosura, 2013). It is worth noting also that, after the Peninsular War, there was a shift upwards in the level of efficiency (total factor productivity) in agriculture, as evidence for Andalusia and Old Castile shows.

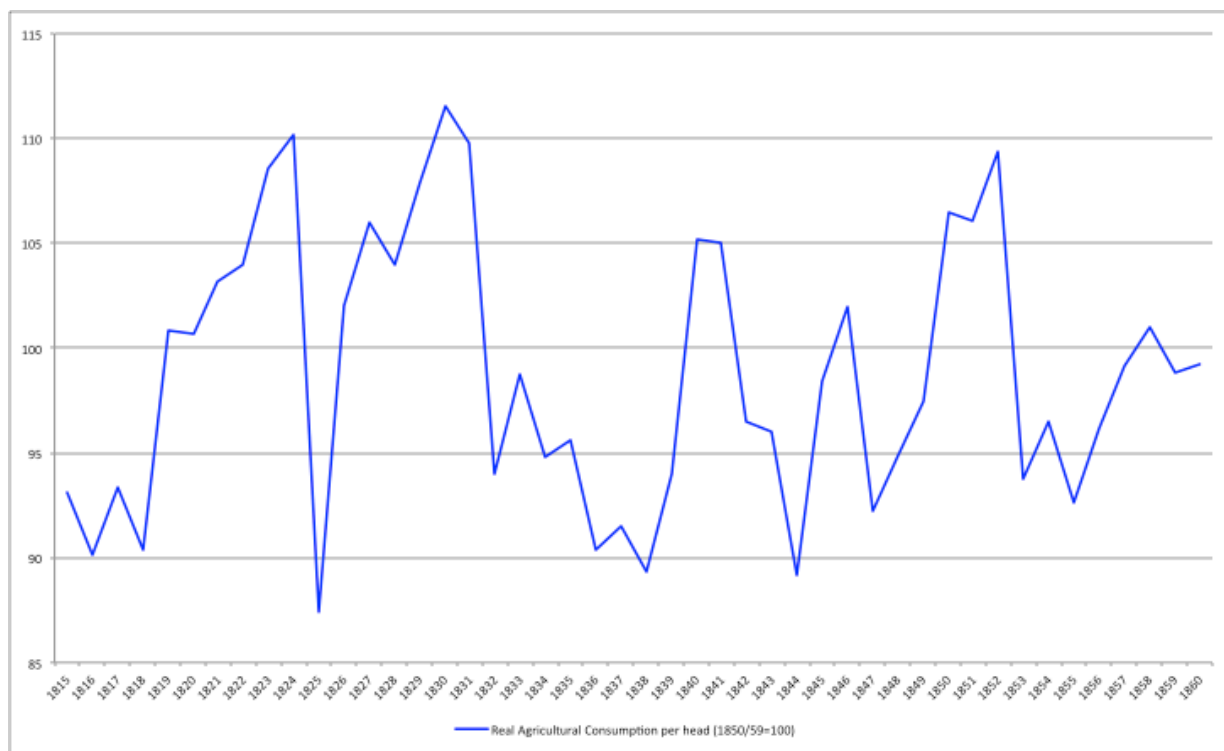


Figure 16 Real Consumption per head in Agriculture, 1815-1850 (1850/9=100)
Sources: Álvarez-Nogal and Prados de la Escosura (2013)

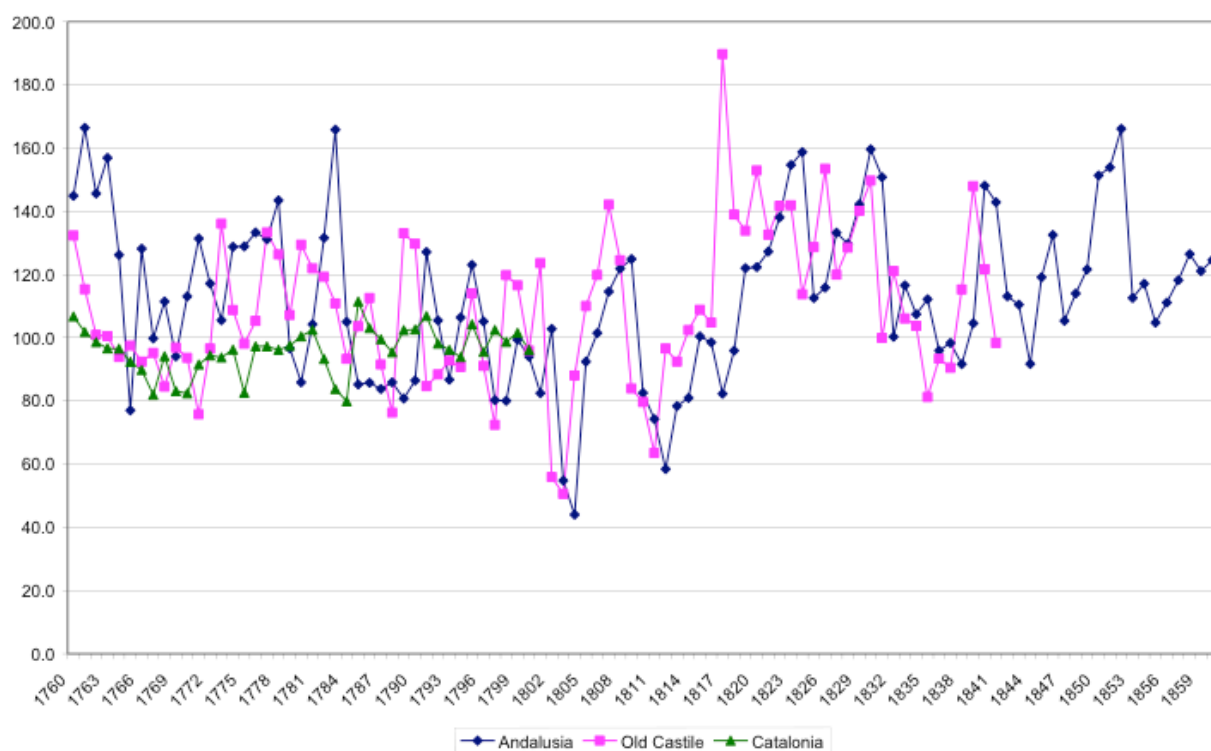


Figure 17 Total Factor Productivity in Agriculture, 1760-1860 (1790/9=100)
Sources: Álvarez-Nogal and Prados de la Escosura (2007)

The increase in the variety of goods and services provided by the market and the reform of land property rights that broadened access to property, favoured a new scenario in which increasing real wage rates went up along an intensification of work.⁵ Thus, during the first half of the nineteenth century while economically active population in agriculture multiplied by 1.5, the area of cultivated land did by 2.4 (Bringas Gutiérrez, 2000: 86).

As regards manufacturing, although the immediate effects of the war were probably similar across industries (reduced demand, scarcity of inputs, high transportation costs and heavy taxation), while traditional industries collapsed, modern industries continued to adopt new technologies. Similarly, the long-term consequences for industry of the loss of the colonies depended on the flexibility and dynamic nature of the industry concerned.

The decline in exports after the loss of the colonies illustrates the lack of competitiveness of Spanish industries, as they could not offer the Latin American consumer either the prices or the quality of her Western European competitors, specifically Great Britain. For example, the Basque iron and steel industry (which sold at least a third of its output to colonial markets at the end of the eighteenth century) became uncompetitive from the 1770s onward. A similar situation characterised the Valencia silk industry. Between the 1790s and the 1820s net exports of raw silk rose while net imports of silk textiles increased. Catalan shipping was yet another industry which had grown under colonial protection and suffered afterwards. However, cotton textiles developed further once the colonial market had been lost. After the war the production of textiles in Catalonia recovered and mechanized, a process that was particularly intense in spinning, which absorbed three quarters of the increase in investment after 1814 (Sánchez, 2000: 502). As Figure 18 shows, the numbers of water-frames and mules increased (in thousands) from 12.9 in 1807 to 77.3 in 1829 and 622.9 in 1850. These machines represented just 13 per cent of all spinning frames in 1807 but rose to represent more than 77 per cent by 1850 (Sánchez, 2000: 508). As

⁵ Thus, by 1850, economically active population in agriculture worked an average of 240 days per year (García Sanz, 1979-80) compared to around 170 days in the eighteenth century (Álvarez-Nogal and Prados de la Escosura, 2013).

Rosés (1998) has shown, in the Catalan cotton industry, the level of human capital allowed the adaptation of foreign technologies, while efficiency gains in spinning and weaving contributed one-fourth and one-third, respectively, of the increased in output between 1830 and 1860.

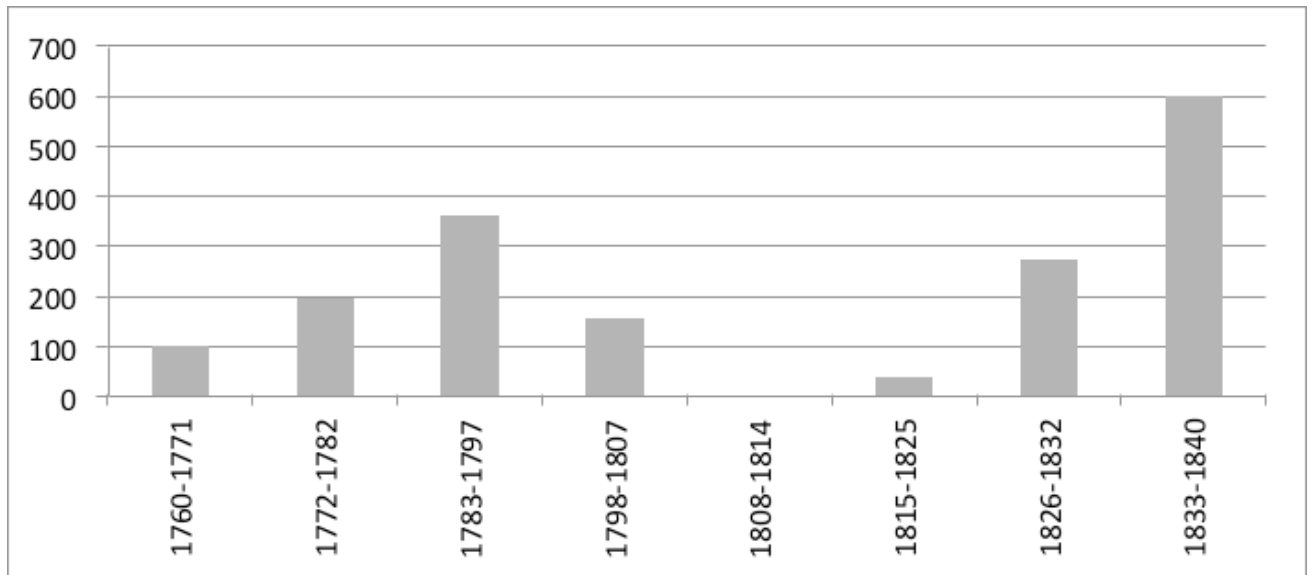


Figure 18: Investment in Catalan Cotton Textiles, 1760-1840 (1760-1771=100)

Source: Sánchez (2000)

The more competitive and flexible sectors of the economy eventually adapted to new circumstances, particularly commercial agriculture, which turned towards growing markets in Western Europe. France and Britain became the leading markets for Spanish exports, accounting for more than half of Spain's sales abroad until the end of the nineteenth century. The terms of trade moved favourably for Spanish primary producers. Technological progress lowered the prices of industrial goods and growing demand raised agricultural prices. As a result, the purchasing power in terms of imports per unit of exports trebled (Figure 19). Meanwhile, Latin American markets never recover the relevance they had before emancipation absorbing, at best, a fourth of all exports from Spain, and most in Cuba.

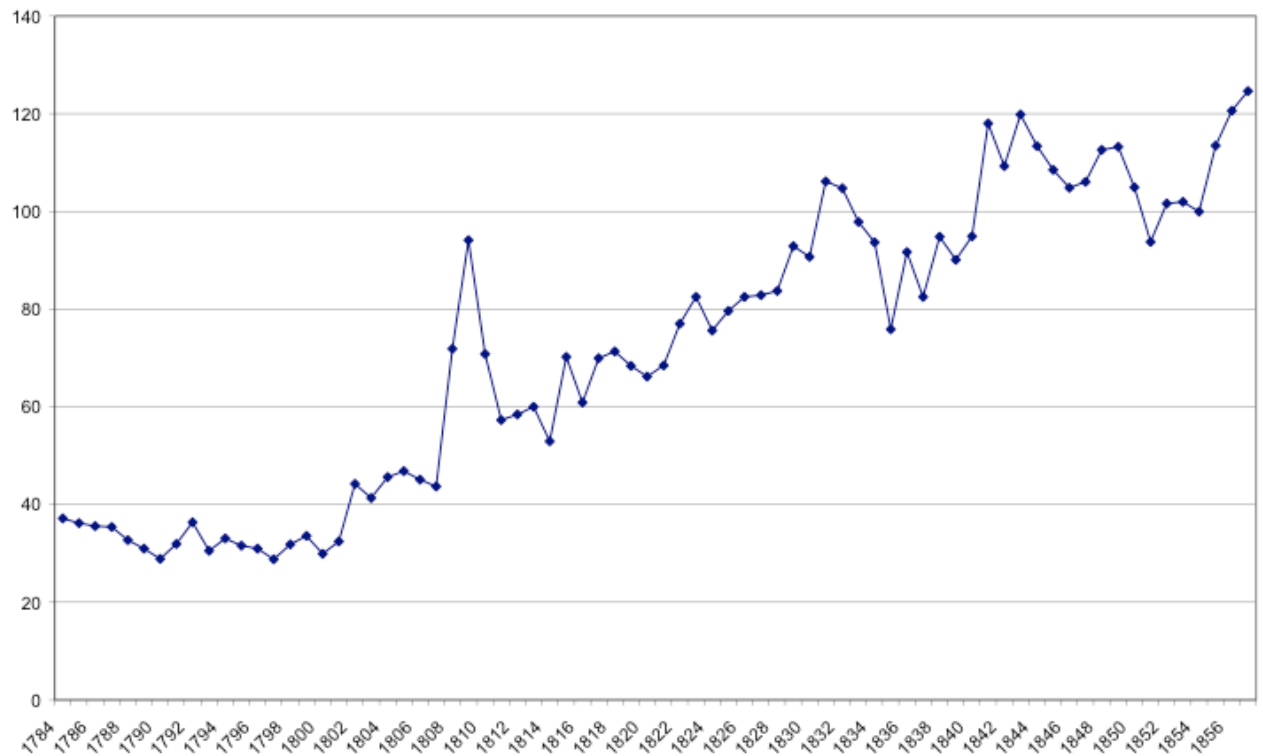


Figure 19 Terms of Trade between Spain and Britain, 1784-1857 (1854=100).

Sources: Prados de la Escosura (1994)

On the whole, the economy expanded steadily during the early nineteenth century, except during Carlist War (1833-1839), and the population expansion was accompanied by a sustained increase in GDP per head. Such behaviour that, in some European countries, would be deemed as the overcoming of the Malthusian trap was not the case in Spain, a frontier economy, in which population and per capita income had evolved alongside over time (Álvarez-Nogal and Prados de la Escosura, 2013). The novelty was that both population and per capita GDP growth had intensified, with yearly rates of 0.7 and 0.4 %, respectively, compared, for example, to 0.4 and 0.1 % during the eighteenth century.

On the downside, despite exhibiting faster growth and higher levels of per capita income than ever before, Spain fell gradually behind northwestern European countries (Britain and France, in particular) (Álvarez-Nogal and Prados de la Escosura, 2013: 23).

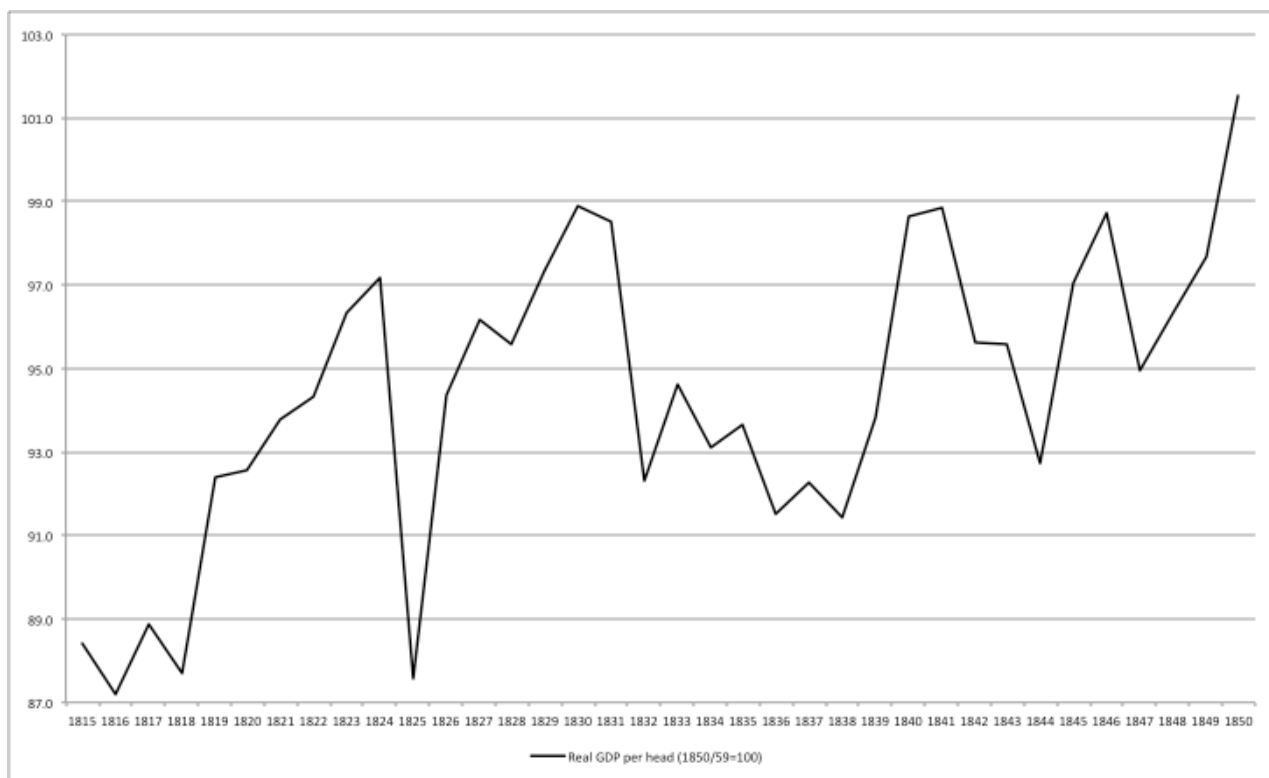


Figure 20. *Real GDP per head, 1815-1850 [1850/59=100]*

Source: *Álvarez-Nogal and Prados de la Escosura (2013)*

How was this progress distributed? Real wage rates increased in the 1820s, but for the 1825 trough, fell steadily during the Carlist War, and recovered through the 1840s (Figure 21). Real land rents, in turn, rose to the beginning of the Carlist war showing a declining tendency thereafter. The ratio between land rents and wages provides a measure of income distribution that suggests a long-term decline in inequality punctuated, nonetheless, by reversals in 1825 and at the beginning and end of the Carlist War (Figure 22).



Figure 21: Real land rent and wages, 1815-1850 (1790/99=100)

Source: Álvarez-Nogal and Prados de la Escosura (2013)

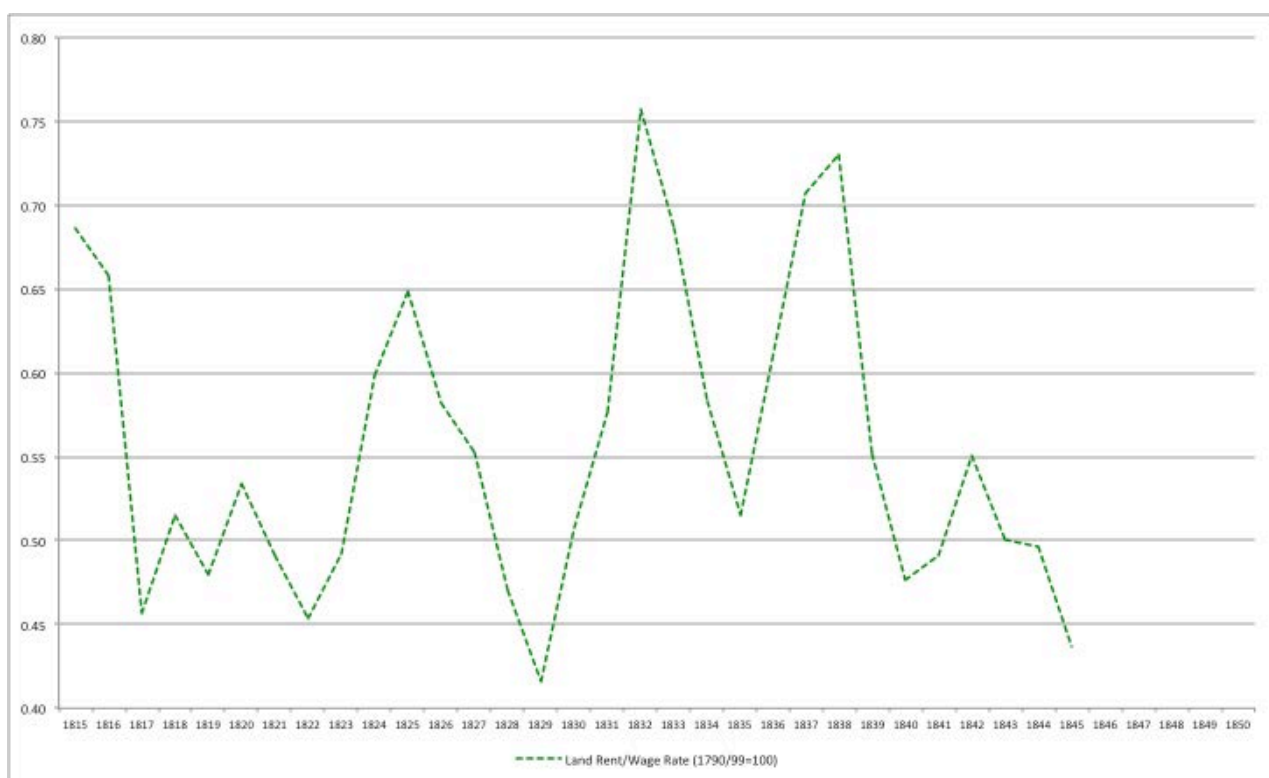


Figure 22: Inequality Trends: Real Land Rent/Wage Rate ratio, 1815-1845 (1790/99=100)

Source: Álvarez-Nogal and Prados de la Escosura (2013)

The Napoleonic Wars: a Watershed?

The empirical evidence on the post-war era marshalled here suggests that the Napoleonic Wars constituted a defining moment in Spanish history. It could be objected, however, that this might simply be an *ex post ergo propter hoc* argument. The relevant question seems to be: in the absence of war, would the Enlightenment elite have carried out the reform of the absolutist state, initiating a gradual transition towards a liberal society? The literature offers examples that provide support to this hypothesis, i.e., the sound public finances of Charles IV prior to the war (Barbier and Klein, 1985; Cuenca, 1981; Merino, 1987; Tedde, 1990); Spain's integration in the international financial world, with Cadiz and Madrid stock exchanges closely connected with those of Amsterdam, London, and Paris (Tedde, 1988); Spain's active involvement in the Anglo-French trade liberalization plans of the 1780s, never implemented as the war broke off (Ehrman, 1962). Besides, the best minds of Spanish Enlightenment, such as Jovellanos and Campomanes, were acquainted with the liberal ideas spreading throughout Western Europe (Anes, 1995; de Castro, 1996; Llombart, 1992). However, there are also arguments against the hypothesis. The colonial empire reinforced absolutism and only the war brought it to an end, challenging the viability of the Ancien Régime. Moreover, the difficulties and reversals faced by the liberal reformers militate against a successful gradual transition from absolutism to liberalism in the absence of war.

Pursuing these lines of enquiry and posing the adequate counterfactuals represent, however, a complete research programme way beyond the scope of this essay. As a compromise and provisional solution we can put our hypothesis to a statistical test. The exercise consists of testing whether there are structural breaks in the series of the economic variables previously discussed. Of course, such an exercise falls short of a proper historical explanation but, if the statistical test casts a positive result, the implication is that our proposed narrative is not far fetched.

Thus, we have tested our series of real GDP per capita, agricultural consumption, wages, land rents, the rent/wage ratio, and agricultural prices for structural breaks, either in the trend or the level, over 1750-1850. A caveat is needed. Rather than exogenously choosing the dates at which the series are tested for

structural breaks, we allowed the data to endogenously identify where the break (if there was any) appeared.

As there could be more than just one structural break we used the Clemente-Montañés-Reyes unit root tests that allow us to establish the existence of one or two structural breaks.⁶ Table 1 summarises the results. In the case of Land Rent and the Rent/Wage Ratio only one structural break was found and, therefore, the specific test designed to identify only one break was preferred.

Table 1
Structural Breaks in Main Economic Variables, 1750-1850

	Coefficient	Year 1	Coefficient	Year 2
Per Capita GDP	4.1***	1783	9.8***	1814
Agricultural Consumption per Head	9.6***	1762	6.0***	1817
Agricultural Prices Prices	7.5***	1785	-6.2***	1811
Wages	-15.8***	1761	22.7***	1818
Land Rent			-14.6***	1809
Rent/Wage Ratio			-18.8***	1811

Note: *** statistical significant at 1%; ** at 5%; * at 10%;

The breaks found before the war show an increase in per capita GDP growth, but also decreasing wages, increasing inequality, falling agricultural consumption per person, and a rise agricultural prices. After the war, per capita GDP growth accelerated with a break point around 1814, similar to the case of real wages that also increased rapidly after the conflict, with a break around 1818. The end of the war also meant an improvement in agriculture, with consumption expanding and prices decreasing, as the break points around 1817 and 1811, respectively, show, while land rent showed a decrease at the beginning of the French invasion with a break point around 1809. Inequality measures also declined with the beginning of the war, showing a break point for the Rent/Wage ratio around 1811.

Using the structural break points located in the series, we can now compute the trends of the different variables before the war and extrapolate them to the post-war period and compare, then, the counterfactual values to the actual ones. This way, we

⁶ We computed two different specifications of the tests, but finally opted for the innovational outlier unit root test that allows for more gradual changes rather than for the additive outlier unit root, which is more adequate to capturing very sudden variations in the series (Clemente et al., 1998).

can get a crude idea of whether the war represented a discontinuity in economic trends.

Table 2
Main Economic Variables: Post-war Counterfactual and Actual Levels

	Counterfactual	Actual	% Change	% Yearly Rate	Year
Per Capita GDP	883	985	12	0,3	1850
Agricultural Consumption per head	83	107	29	0,7	1850
Agricultural Prices	196	82	-58	-2.5	1850
Wages	71	171	139	2.5	1850
Land Rent	96	67	-30	-1.2	1845
Rent/Wage Ratio	128	44	-66	-3.6	1845

Table 2 presents the actual and counterfactual values at the end of the considered period and the implied change with respect to the pre-war trend projection. We can observe that GDP per capita levels were 12 per cent higher by mid-nineteenth century than what they would have been had pre-war trends prevailed. Also, real wages were 139 per cent higher and land rents 30 per cent lower. There was also an improvement in the case of inequality, as the Rent/Wage ratio that was two-thirds lower than the pre-war projected value. Agricultural consumption per head increased by nearly one-third and prices more than halved compared to the predicted levels with pre-war trends.

Thus, it can suggested that there were important gains that would not have been achieved had pre-war trends persisted in the early nineteenth century and that, consequently, the war represented a defining moment for the Spanish economy.

IV. Conclusions

The economic consequences of the Peninsular War in Spain were clearly negative in the short term. The immediate demographic effects of the war were harder than any other conflict in the history of the country. Agriculture was affected in different ways. While forced expropriations had a clear negative effect, the elimination of the Ancien Régime controls made possible to increase production and provided a more flexible institutional framework favouring economic growth. Industry was

hampered by the impoverishment of the population and the disruption of trade that increased the cost of inputs. War represented a heavy blow for traditional and inefficient industries. International trade suffered a severe contraction. GDP per head fell during the Peninsular War, with its effects unevenly distributed.

The loss of the Americas mainland colonies, another by-product of the Napoleonic Wars, had short-run negative effects on capital formation, trade, and manufacturing industry, and Government revenues, but the overall impact on GDP was much lower than previously assumed in qualitative assessments, and concentrated in particular regions and economic sectors. Moreover, if a direct link could be established between Spanish America independence and the fall of the Ancien Régime, the loss of the colonies would have contributed significantly to the transition to liberalism in Spain.

In the long run, the Napoleonic Wars triggered a complex transition from an absolutist empire to a modern nation. The liberal reforms redefined property rights, making all citizens equal before the law, freed commodity and factor markets, and introduced new legislation and regulation of economic activities. Moreover, liberalism represented control of the executive through the parliament. The long-term consequences were a more efficient allocation of resources and sustained economic growth. Needless to say, serious obstacles emerged on the way, with civil wars and military takeovers as major setbacks that deferred the transition. On the whole, the Napoleonic Wars may be depicted watershed.

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